Claims

1. A computer system with a main system to execute an application in cooperation with a human user, the computer system comprising an auxiliary system to evaluate problems in the main system , the auxiliary system comprising the following modules:

a service module to collect problem related data from the main system;

an acquisition module to acquire knowledge representations;

a knowledge module to store the knowledge representations; and

an inference module to process problem related data with knowledge representations to identify solutions, the inference module forwarding the solutions through the service module to the main system.

2. The computer system of claim 1, wherein the main system has a client/server configuration with a database, an application server and a front-end server.

3. The computer system of claim 2, wherein the auxiliary system uses the client/server configuration of the main system, wherein the modules of the auxiliary system are distributed such that the service module, the acquisition module, the knowledge module, and the inference module are arranged in parallel to the application server and to the database.

4. The computer system of claim 2, wherein the service module makes basis service functions of the main system available for the auxiliary system.

5. The computer system of claim 2, wherein the service module cooperates with the main system to obtain problem related data for the auxiliary system.

6. The computer system of claim 5, wherein the service module provides remote function call connections with a service system.

7.   The computer system of claim 5, wherein the service module monitors the application server and the database according to instructions from the inference module.

8.   The computer system of claim 2, wherein the knowledge module distinguishes contexts that are predefined sets of knowledge representations.

9.   The computer system of claim 2, wherein the knowledge module distinguishes versions of the main system by using a lexicon.

10.   The computer system of claim 2, wherein the knowledge module distinguishes context with primary context and secondary context, wherein the secondary context is referenced from the first context.

11.   The computer system of claim 2, wherein the knowledge module is adapted to receive regular updates of the knowledge representations from a service system.

12.   The computer system of claim 2, wherein the knowledge module generates solution identification rules with computer instructions to automatically solve the problem.

13.   The computer system of claim 2, wherein the knowledge module stores the knowledge representations in a plurality of tables in the database.

14.   The computer system of claim 2, wherein the auxiliary system conditionally forwards problem data to a service system.

15.   The computer system of claim 14, wherein the auxiliary system forwards the problem data to the service system with preliminary analysis data based on processing with knowledge representations in the auxiliary system.

16.   The computer system of claim 15, wherein the auxiliary system forwards problem data for further analysis by a human technician.

17. The computer system of claim 15, wherein the auxiliary system forwards problem data and preliminary solutions to the service system in a format that allows evaluation in the service system.

18. The computer system of claim 14, wherein the main system is adapted to be operated by a first customer, the service system is implemented by an expertise service provider, and the at least one further main system is adapted to be operated by a second customer.

19. The computer system of claim 18, wherein the main system and the further main system are systems of the same type, but have different release versions.

20. A method to operate a computer system with a main system executing an application in cooperation with a human user and an auxiliary system evaluating problems in the main system , the method comprising the following steps performed by the auxiliary system :

collecting problem related data from the main system ;

acquiring knowledge representations);

storing knowledge representations; and

processing problem related data with the knowledge representations to identify solutions, and forwarding the solutions to the main system.

21. The method of claim 20, wherein collecting is performed by a service module, acquiring is performed by an acquisition module; storing is performed by a knowledge module, and processing and forwarding are executed by an inference module.

22. The method of claim 20, wherein collecting, acquiring, storing, processing and forwarding are performed for the main system in client/server configuration with a database, an application server, and a front-end server.

23. The method of claim 20, wherein collecting, acquiring, storing, processing and forwarding are performed in modules of the auxiliary system that are arranged in parallel to the main system.

24. The method of claim 20, wherein collecting, acquiring, storing, processing and forwarding are performed by using basis service functions of the main system.

25. The method of claim 20, wherein in collecting, the service module provides remote function call connections with a service system being a further auxiliary system.

26. The method of claim 20, wherein in storing, the knowledge module classifies the knowledge representations into context groups.

27. The method of claim 20, wherein in storing, the knowledge module organizes the versions of the main system by a lexicon.

28. The method of claim 20, wherein in storing, the knowledge module distinguishes context between primary context and secondary context.

29. The method of claim 20, wherein in processing, the inference module performs an action selected from the group of:

identify the solutions form set of predefined advices of the application,

identify the solutions by applying knowledge representations in a sequential order,

identify the solutions by applying knowledge representations in a hierarchical order,

identify the solutions by applying knowledge representations in a dynamically adaptive order,

communicate questions to the user by composing the questions from predefined passages provided by the application, and

analyse responses that the user enters in natural language.

30. The method of claim 20, while executing any of the steps of collecting, acquiring, storing, processing and forwarding, the auxiliary system conditionally forwards problem data in combination with solutions to a service system.

31. The method of claim 30, wherein the auxiliary system forwards problem data and solutions for further analysis by a human technician.

32. The method of claim 30, wherein the auxiliary system forwards problem data and solutions to the further computer in a format that allows analysis by an expert system in the further computer.

33. A method for solving problems on a main computer system, wherein the computer system cooperates with an expert computer system , the method comprising the following steps:

querying to establish the need for interaction among computer systems and users, by collecting data and processing the data with knowledge representations;

querying for an interaction type being either user/system interaction or system/system interaction;

querying for an initiation type being either user initiation or system initiation; and

according to the interaction and initiation types, evaluating the problems by collecting further data, processing the further data with the knowledge representations to identify solutions.

34. A computer program product comprising program code means for performing all the steps of anyone of the claims 20-33 when the computer program product is run on a computer.

35. An inference module with expertise functionality for evaluating problems in a main computer system that executes an application, wherein the inference module is adapted to process problem related data with knowledge representations to identify solutions, the inference module characterized in that the inference module is part of an auxiliary computer system using basis functions of the main computer system, and that the main computer system and the auxiliary computer system are client/server systems.

36. The computer system of claim 1, wherein at least the main system executes an enterprise resource planning application.

37. The computer system of claim 1, wherein at least one system is implemented as an R/3 system.